

**SECTION 07423**  
**PREFABRICATED ROOF PANELS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section includes the following:
  - 1. Prefabricated roof panel consisting of PVC roof membrane factory laminated to insulation panel.
- B. Related Sections:
  - 1. Division 5 Section "Structural Steel".
  - 2. Division 6 Section "Miscellaneous Carpentry" for wood nailers and blocking.
  - 3. Division 7 Section "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
  - 4. Division 8 Section "Exterior Wall Systems - General", for requirements for exterior wall components.
  - 5. Division 15 Section "Plumbing Specialties" for roof drains.

**1.2 PERFORMANCE REQUIREMENTS**

- A. Provide installed prefabricated roof panel and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. FMG Listing: Provide prefabricated roof panel, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
  - 1. Fire/Windstorm Classification: Class 1A-90.

**1.3 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
  - 1. Base flashings and membrane terminations.
  - 2. Fastening patterns.
- C. Samples for Verification: For the following products:
  - 1. 12-by-12-inch square of sheet roofing, of color specified, including lap seam.

**1.4 QUALITY ASSURANCE**

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.

**1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing.
- B. Protect materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

- C. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

## 1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of prefabricated roofing panel system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
  - 1. Special warranty includes prefabricated roof panel, base flashings, prefabricated roof panel accessories roof insulation fasteners cover boards and other components of membrane roofing system.
  - 2. Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Manufacturer: Subject to compliance with requirements, provide product by the following:
  - 1. Alumashield Industries.

### 2.2 PREFABRICATED ROOF PANEL

- A. Panel Membrane: PVC Sheet: ASTM D 4434, Type III, fabric reinforced.
  - 1. Membrane Manufacturer: Provide "Sarnafil Roof Panel" manufacturer by Sarnafil Inc.
  - 2. Membrane Thickness: 60 mils, nominal.
  - 3. Exposed Face Color: Gray.
- B. Panel Insulation: preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
  - 1. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, felt or glass-fiber mat facer on both major surfaces.

### 2.3 ACCESSORIES

- A. Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet membrane.
- C. Bonding Adhesive: Manufacturer's standard solvent-based bonding adhesive for membrane, and solvent-based bonding adhesive for base flashings.
- D. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the conditions affecting performance of roofing system:

### 3.2 INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

- B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
- C. Mechanically Fastened: Install insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
  - 1. Fasten according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
- D. Seams: Clean seam areas, overlap prefabricated roof panel, and hot-air weld side and end laps of prefabricated roof panel according to manufacturer's written instructions to ensure a watertight seam installation.
  - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of prefabricated roof panel.
  - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
  - 3. Repair tears, voids, and lapped seams in prefabricated roof panel that does not meet requirements.

### 3.3 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply solvent-based bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with sheet flashing.
- D. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

### 3.4 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to CM.
  - 1. Notify CM 48 hours in advance of date and time of inspection.

### 3.5 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to CM.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

**END OF SECTION 07423**